Ham-Space Digest   Tue, 11 Oct 94   Volume 94 : Issue 287

Today's Topics:
                    EME'ers in Seattle (2 msgs)
                           GPS Info?
                  Ham-Space Digest V94 #274
          HELP!!!   Any Way to Record Digital "Unattended"?
                     Phase schedules (3 msgs)

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 9 Oct 1994 21:30:06 GMT
From: edsuom@u.washington.edu (Ed Suominen)
Subject: EME'ers in Seattle

Could anyone tell me the names and calls of active moonbouncers in the
Seattle area? I've been mildly interested in this aspect of the hobby for
years and would love to see some setups.

Please E-mail directly:

Ed Suominen NM7T
edsuom@u.washington.edu

Date: Mon, 10 Oct 1994 14:15:02
From: vaughnwt@olympus.net (Bill Vaughn)
Subject: EME'ers in Seattle

In article <379ncu$m47@nntp1.u.washington.edu> edsuom@u.washington.edu (Ed Suominen) writes:
>From: edsuom@u.washington.edu (Ed Suominen)
>Subject: EME'ers in Seattle
>Date: 9 Oct 1994 21:30:06 GMT

>Could anyone tell me the names and calls of active moonbouncers in the
>Seattle area? I've been mildly interested in this aspect of the hobby for
>years and would love to see some setups.

>Please E-mail directly:

>Ed Suominen NM7T
>edsuom@u.washington.edu

Forget that e-mail directly a lot of us would like to see this.

Date: 10 Oct 1994 11:53:09 +0100
From: phufh@csv.warwick.ac.uk (Andrew Lambert)
Subject: GPS Info?

Silva (the quality compass manufactures) also manufacture a GPS receiver
incorporating an electronic compass. This means that in addition to telling
you which direction to travel, it will show you!

Can't recall there address, mail me if need it.

Andy

Andrew David Lambert	phufh@csv.warwick.ac.uk	"I don't like it and I'm sorry
3rd Year Physics	g7jaf	I've had anything to do with
University of Warwick		it.".......Quantum Mechanics
England_____	_____	ERWIN SCHRODINGER 1887-1961___

Date: 9 Oct 94 20:56:36 GMT
From: 100407.436@compuserve.COM (Laurent Ferracci)
Subject: Ham-Space Digest V94 #274

:IF you were under the FCC's jurisdiction then whoever the REF is lied to you.
:You have every "right" to use RS-10, as long as you adhere to the limitations
:of your license class for transmissions leaving your antenna. If RS-10 chooses

:to retransmit your signals, that is RS-10's control operator's problem, not

:yours.

Not at all.. Here in France the law is not the same. By example, some
"beginners" licenses (FA...) do not allow to transmit on UHF, but only on VHF..
So the FA.. can not use any cross-band repeater that would re-transmit them on
UHF.
In fact the problem is harder: What should we think about packet, that forward
the message of a FA by example, on UHF, SHF, HF bands ?? Of course it would be
stupid not to allow packet to them because of this.. Some exeptions exists, and
RS10/11 is one of them.

Date: 10 Oct 1994 12:02:31 GMT
From: Ken Terry <ken_terry@macmail.eng.gulfaero.com>
Subject: HELP!!!   Any Way to Record Digital "Unattended"?

I am trying to record unattended data from my icom while I am at work,
but regular audio tape does not give me the resolution I need. Either
DAT or minidisk was recommended. However, I cannot keep my computer on
all day to control the recorder due to afternoon lightening storms. If
you have been able to record unattended signals on a digital format,
please let me know the secret.

In advance->Thank you very much!!

Ken
ken_terry@macmail.eng.gulfaero.com

Date: 9 Oct 94 22:08:57 GMT
From: dmgillah@mtu.EDU (David Gillahan)
Subject: Phase schedules

Speaking of Phase schedules, I was wondering where I might find current
ones? The sat I'm most interested in is AO-13, but schedules for others
would be good too...Thanks
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****
* Talk to ya, Dave   Attention all Skydivers: *
*   Until you've jumped   *
* Michigan Technological University   into pitch blackness   *
* Where it's too &&#% cold!   at 1250 feet with 80   *
* dmgillah@mtu.edu   pounds of combat gear, *
* kb8por@w8yy.#upmi.mi.usa.na   YOUR STILL A LEG !!!   *
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Nigel Kirlew (anto@gate.net) wrote:

: Art Jeyes (art_jeyes@jhuapl.edu) wrote:
: : Hi.... I am new to rec.radio.amateur.space and am just thinking about
: : getting active in Sat comms....

: : Could someone explain the phase schedules I have seen for some of the sat
: : modes .... (I understand the modes Mode B, S etc) just not the phasing..

: :   for example ... what does MA 20 to MA 50 mean ...

: MA stands for mean anomaly. It is a number between 0 and 256. It is used to
                                                     ^^^^^^^^^
Let me add a clarification since from e-mail received there is some
misunderstanding. Mean anomaly (angle), when used for satellite tracking
purposes, has values from 0 to 360. The mean anomaly is 0 at perigee and 180
at apogee. Values between 0 and 180 mean the satellite is headed toward
apogee, values between 180 and 360 mean the satellite is headed toward
perigee. However, MA is used in a somewhat different sense by the radio
amateur Phase 3 satellite designers when refering to phase units. When MA is
used to represent phase units, it has a range from 0 to 256. This was more
convenient for the designers because of the microprocessor architecture
used in the satellites. There is a direct relationship between phase
units and "traditional" mean anomaly. To convert to phase units from
traditional mean anomaly use:

            Phase Unit = 256/360 * Mean Anomaly

I hope this helps to clarify the meaning.

: locate the satellite in it's orbit. For example, MA 0 means the satellite is
: at perigee (point where satellite height is minimum). At MA 128, the
: satellite is at apogee (point in orbit where satellite height is maximum).
: With MA between 0 and 128, the satellite is headed toward apogee. Likewise,
: if MA is between 128 and 256, the satellite is headed toward perigee. Note
: that MA 0 and 256 refer to the same point, perigee.

: The MA is frequently used to indicate when transponders will be turned on
: and off during any orbit.

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Nigel Kirlew, N4TKC
anto@gate.net
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Date: Mon, 10 Oct 1994 19:32:12 GMT
From: courtney_duncan@jpl-335-server.jpl.nasa.gov (Courtney Duncan)
Subject: Phase schedules

Angles can be measured in many units:

```
circles  : perigee 0, apogee 0.5
radians  : perigee 0, apogee PI  (3.141592653......)
degrees  : perigee 0, apogee 180
grads    : perigee 0, apogee 200
Meinzers : perigee 0, apogee 128
```

"Meinzers" were chosen to make the most use of 8 bits in representing the value. As long as you know how to use it correctly, it's just as good as any other unit. To have used integer degrees, you'd have to have a ninth bit, which would be wasted most of the time (much like the fourth bit in BCD), to have used radians, you'd need some kind of float (if you used standards) which is a bunch more bytes. (Radians are better if you're actually calculating trig values as part of the algorithm, which I don't think they do in the Phase III series, I think they just index into a table, another reason to use 0-255 base.)

Note that Mean Anomaly is uniform in time, not angle, so one mean anomaly unit (of any type) corresponds to much larger angle (in "true anomaly") near perigee than at apogee. For circular orbits, mean, true, (and eccentric) anomalies are roughly the same.

Needing a unit to describe 1/256th of a circle, some of the insiders coined the term "Meinzers" several years ago in honor of Dr. Dr. Dr. Karl Meinzer, DJ4ZC, one of the main European leaders in the amateur satellite program dating back to OSCAR 6 days. This is mainly because he made that selection and wrote the P3 software (in a language called IPS, similar to Forth).

Courtney, n5bf

Date: Mon, 10 Oct 1994 12:40:14 GMT
From: gary@ke4zv.atl.ga.us (Gary Coffman)

References<art_jeyes.1131918888A@128.220.101.100> <377c8h$j13@tequesta.gate.net>,

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<37a4m4$58o@tequesta.gate.net>
Reply-To: gary@ke4zv.atl.ga.us (Gary Coffman)
Subject: Re: Phase schedules

In article <37a4m4$58o@tequesta.gate.net> anto@gate.net (Nigel Kirlew) writes:
>Nigel Kirlew (anto@gate.net) wrote:
>: MA stands for mean anomaly. It is a number between 0 and 256. It is used to
>                                                        ^^^^^^^^^
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>convenient for the designers because of the microprocessor architecture
>used in the satellites. There is a direct relationship between phase
>units and "traditional" mean anomaly. To convert to phase units from
>traditional mean anomaly use:
>
>              Phase Unit = 256/360 * Mean Anomaly
>
>I hope this helps to clarify the meaning.

Yes, except for one ittsy bittsy detail. MA is from 0 to *255*, the
largest decimal number expressable in 8 bits. That's 256 *counts*
including zero.

Gary

--
Gary Coffman KE4ZV           |     You make it,      | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems |     we break it.      | emory!kd4nc!ke4zv!gary
534 Shannon Way             |     Guaranteed!       | gary@ke4zv.atl.ga.us
Lawrenceville, GA 30244     |                       |

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End of Ham-Space Digest V94 #287
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